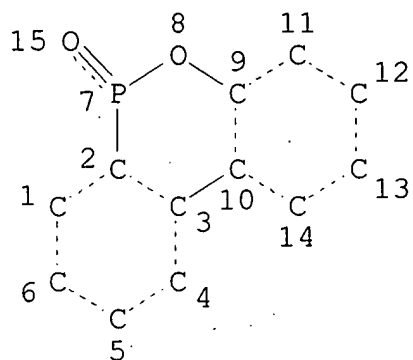


FILE 'HCAPLUS' ENTERED AT 11:10:24 ON 24 APR 2006
L8 14 S L4(L) RACT+NT/RL AND L7(L) PREP+NT/RL

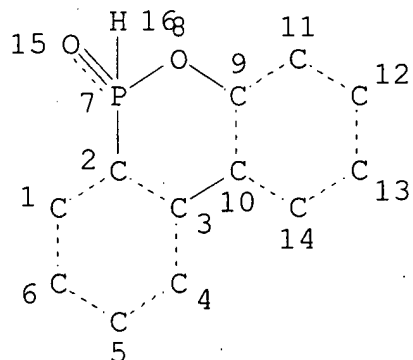
FILE 'REGISTRY' ENTERED AT 11:12:36 ON 24 APR 2006

FILE 'REGISTRY' ENTERED AT 11:12:55 ON 24 APR 2006

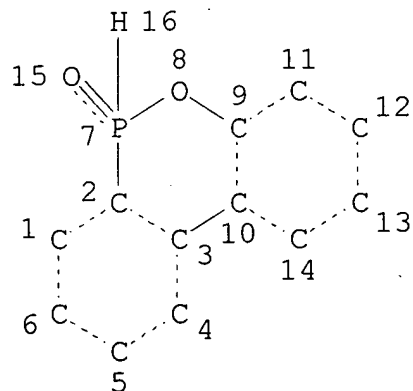
=> str l1
:dis



:att 7 h vn se
:dis



:mov 16 u2,dis



:end
L9 STRUCTURE CREATED

=> s 19 sub=l4 sam
SAMPLE SUBSET SEARCH INITIATED 11:14:02 FILE 'REGISTRY'
SAMPLE SUBSET SCREEN SEARCH COMPLETED - 99 TO ITERATE

100.0% PROCESSED 99 ITERATIONS 9
ANSWERS
SEARCH TIME: 00.00.01

PROJECTIONS (WITHIN SPECIFIED SUBSET): ONLINE **COMPLETE**
PROJECTED ITERATIONS (WITHIN SPECIFIED SUBSET): 1384 TO
2576
PROJECTED ANSWERS (WITHIN SPECIFIED SUBSET): 9 TO
360

L10 9 SEA SUB=L4 SSS SAM L9

=> s 19 sub=l4 full
FULL SUBSET SEARCH INITIATED 11:14:10 FILE 'REGISTRY'
FULL SUBSET SCREEN SEARCH COMPLETED - 1846 TO ITERATE

100.0% PROCESSED 1846 ITERATIONS 127
ANSWERS
SEARCH TIME: 00.00.01

L11 127 SEA SUB=L4 SSS FUL L9

=> b hcap		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	40.28	645.29
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-10.50

FILE 'HCAPLUS' ENTERED AT 11:14:15 ON 24 APR 2006
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FILE COVERS 1907 - 24 Apr 2006 VOL 144 ISS 18
FILE LAST UPDATED: 23 Apr 2006 (20060423/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l11 (l)ract+nt/rl and 17(l)prep+nt/rl

L11 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> s l11 (l)ract+nt/rl and 17(l)prep+nt/rl

582 L11

2845537 RACT+NT/RL (10 TERMS)

168 L11 (L)RACT+NT/RL

165 L7

3456277 PREP+NT/RL (18 TERMS)

61 L7(L)PREP+NT/RL

L12 10 L11 (L)RACT+NT/RL AND L7(L)PREP+NT/RL

=> d ibib abs hitstr l12 tot

L12 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:293401 HCAPLUS

DOCUMENT NUMBER: 144:332992

TITLE: Fireproofing finishes containing phosphonic acid

esters and manufacture of fire-resistant fibers using

them

INVENTOR(S): Kobayashi, Junichi; Ishikawa, Akira;

Kanehira, Ryoji

PATENT ASSIGNEE(S): Marubishi Oil Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 20 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE			
-----	----	-----	-----

JP 2006083491	A2	20060330	JP 2004-270028
20040916			

PRIORITY APPLN. INFO.:

JP 2004-270028

20040916

AB The finishes contain RC6H4OQ [I; R = H, (un)substituted hydrocarbyl; Q =

9,10-dihydro-10-oxo-9-oxa-10-phosphaphenanthren-10-yl] and are contacted

to fibers to give the fire-resistant fibers. Manufacture of I by reaction of

9,10-dihydro-9-oxa-10-phosphaphenanthrene 10-oxide (II) with halogen

compds. in the presence of amines and dehydrohalogenation reaction of the

resulting XQ (X = halo) with RC6H4OH is also claimed. Thus, 30.8 g CCl₄

was added dropwise to CH₂Cl₂ containing II 32.4, phenol 14.1, and Et₃N 17.2 g

at ≤15° and stirred for 1 h to give 43.5 g I (R = H), 40

parts of which was added to a mixture of polyoxyethylene distyrenated phenol

ether sulfate 5, 10% aqueous CM-cellulose solution 2, and H₂O 53 parts and

dispersed to give a fireproofing finish. A 90/10 regular

polyester/cationic dyeable polyester fabric was padded with a liquid containing

20% of the finish, dried, heat-set, washed with soda ash, and dried to

show good fire resistance even after washing or dry cleaning.

IT 36240-30-9P 55217-59-9P, 6-Phenoxy-6H-

Dibenz[c,e][1,2]oxaphosphorin-6-oxide 880138-78-3P,

6-(3-Methylphenoxy)-6H-Dibenz[c,e][1,2]oxaphosphorin-6-oxide

880138-79-4P, 6-(4-tert-Butylphenoxy)-6H-

Dibenz[c,e][1,2]oxaphosphorin-6-oxide 880138-80-7P,

6-(4-n-Octylphenoxy)-6H-Dibenz[c,e][1,2]oxaphosphorin-6-oxide

RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PRP (Properties); PREP (Preparation); USES (Uses)

(fireproofing finishes based on phosphonic acid esters with

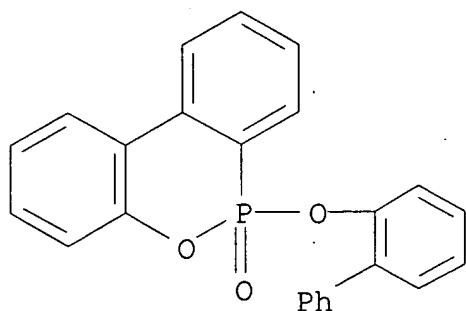
good

washfastness)

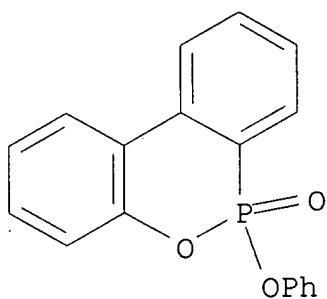
RN 36240-30-9 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-([1,1'-biphenyl]-2-yloxy)-, 6-oxide

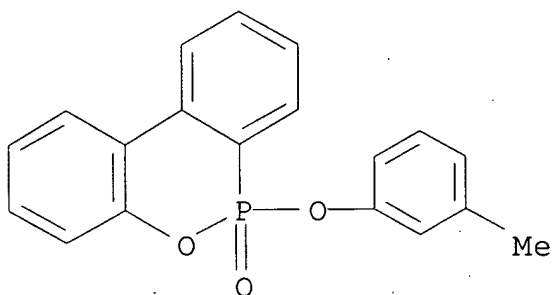
(9CI) (CA INDEX NAME)



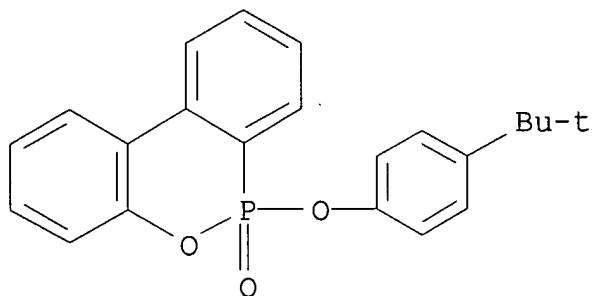
RN 55217-59-9 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-phenoxy-, 6-oxide (9CI) (CA
 INDEX
 NAME)



RN 880138-78-3 HCAPLUS
 CN 6H-Dibenzo[c,e][1,2]oxaphosphorin, 6-(3-methylphenoxy)-, 6-oxide
 (9CI)
 (CA INDEX NAME)

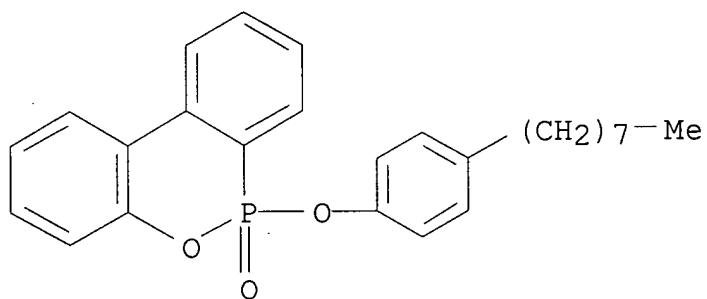


RN 880138-79-4 HCAPLUS
 CN 6H-Dibenzo[c,e][1,2]oxaphosphorin,
 6-[4-(1,1-dimethylethyl)phenoxy]-,
 6-oxide (9CI) (CA INDEX NAME)



RN 880138-80-7 HCAPLUS

CN 6H-Dibenzo[c,e][1,2]oxaphosphorin, 6-(4-octylphenoxy)-, 6-oxide
(9CI) (CA INDEX NAME)



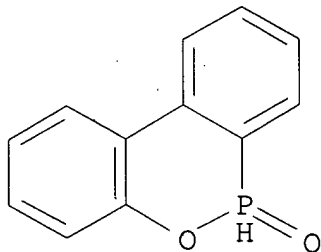
IT 35948-25-5, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene 10-oxide

RL: RCT (Reactant); RACT (Reactant or reagent)

(fireproofing finishes based on phosphonic acid esters with
good washfastness)

RN 35948-25-5 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



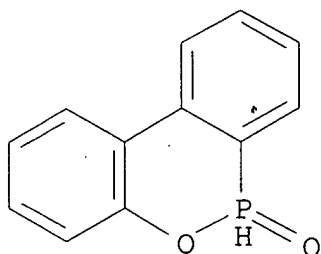
L12 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:141621 HCAPLUS

DOCUMENT NUMBER: 143:172925

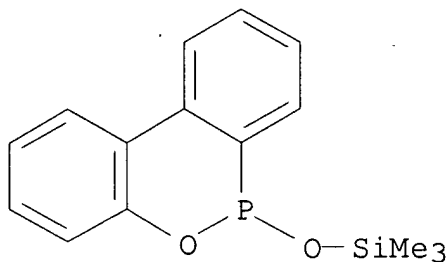
TITLE: Arylation of
6H-dibenzo[c,e][1,2λ5]oxaphosphini

ne 6-oxide
 AUTHOR(S): Beletskaya, I. P.; Neganova, E. G.; Veits, Yu. A.
 CORPORATE SOURCE: Faculty of Chemistry, Lomonosov Moscow State University, Moscow, 119992, Russia
 SOURCE: Russian Journal of Organic Chemistry (2004), 40(12), 1782-1786
 CODEN: RJOCEQ; ISSN: 1070-4280
 PUBLISHER: MAIK Nauka/Interperiodica Publishing
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 143:172925
 AB Arylation and alkylation of 6H-dibenzo[c,e][1,2λ5]oxaphosphinine 6-oxide at the phosphorus atom was accomplished. Tetrafluoro-4-pyridyl fragment was introduced via reaction of 6-trimethylsiloxy-6H-dibenzo[c,e][1,2]oxaphosphinine with pentafluoropyridine. The arylation of the title compound with aryl iodides containing both electron-acceptor and electron-donor substituents was effected under catalysis by palladium or nickel complexes.
 IT 35948-25-5
 RL: RCT (Reactant); RACT (Reactant or reagent) (palladium or nickel catalyzed arylation of dibenzooxaphosphinine oxide)
 RN 35948-25-5 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



IT 861105-63-7P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (palladium or nickel catalyzed arylation of dibenzooxaphosphinine oxide)
 RN 861105-63-7 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-[(trimethylsilyl)oxy]- (9CI) (CA

INDEX NAME)



REFERENCE COUNT:
AVAILABLE FOR THIS

25

THERE ARE 25 CITED REFERENCES

RE FORMAT

RECORD. ALL CITATIONS AVAILABLE IN THE

L12 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:140870 HCAPLUS

DOCUMENT NUMBER: 142:198207

TITLE: Process for the preparation of

9,10-dihydro-9-oxa-10-

organophosphaphenanthrene 10-oxide and

derivatives of

the same substituted on the phenyl groups
Dittrich, Uwe; Just, Berthold; Doring,

INVENTOR(S):

Manfred;

Ciesielski, Michael

PATENT ASSIGNEE(S):

Germany

SOURCE:

U.S. Pat. Appl. Publ., 12 pp.

CODEN: USXXCO

DOCUMENT TYPE:

Patent

LANGUAGE:

English

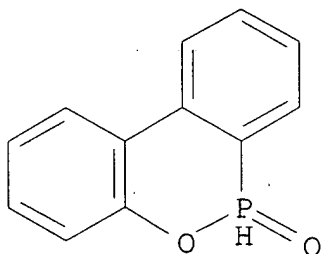
FAMILY ACC. NUM. COUNT:

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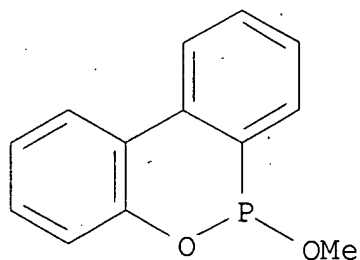
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
US 2005038279	A1	20050217	US 2004-918838
20040813			
DE 10338116	A1	20050317	DE 2003-10338116
20030815			
EP 1512690	A1	20050309	EP 2004-18829
20040809			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
PRIORITY APPLN. INFO.:			DE 2003-10338116 A
20030815			

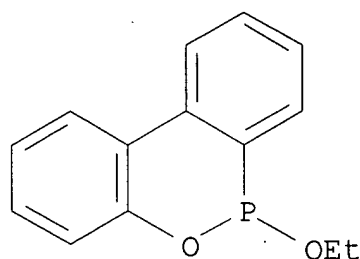
OTHER SOURCE(S): CASREACT 142:198207; MARPAT 142:198207
 AB A process is provided for the preparation of
 9,10-dihydro-9-oxa-10-
 organophosphaphenanthrene 10-oxide and derivs. of same
 substituted on the
 Ph groups, in which: (a)
 9,10-dihydro-9-oxa-10-phosphaphenanthrene
 10-oxide (DOP) or a derivative of same is reacted in the
 presence of at least
 one mono- or polyhydric alc. with at least one ortho ester with
 formation
 of a first intermediate product, (b) the intermediate product
 from step
 (a) is optionally reacted with at least one further mono- or
 polyhydric
 alc. with formation of a further intermediate product and (c) the
 intermediate product from steps (a) or (b) is transformed by
 addition of
 catalytic quantities of alkylation agent into
 9,10-dihydro-9-oxa-10-
 organophosphaphenanthrene 10-oxide or a derivative of same
 substituted on the
 Ph groups.
 IT 35948-25-5, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene-10-oxide
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of substituted Ph group derivs. of dihydro
 oxaorganophosphaphenanthrene oxide useful as flame retardants)
 RN 35948-25-5 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



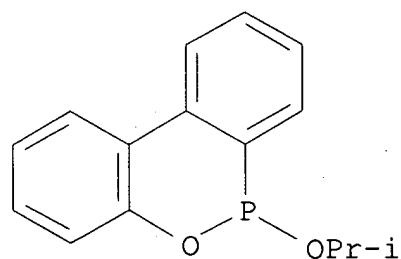
IT 37632-28-3P 194091-96-8P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)
 (preparation of substituted Ph group derivs. of dihydro
 oxaorganophosphaphenanthrene oxide useful as flame retardants)
 RN 37632-28-3 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-methoxy- (9CI) (CA INDEX
 NAME)



RN 194091-96-8 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-ethoxy- (9CI) (CA INDEX
 NAME)



IT 585573-01-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of substituted Ph group derivs. of dihydro
 oxaorganophosphaphenanthrene oxide useful as flame retardants)
 RN 585573-01-9 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-(1-methylethoxy)- (9CI) (CA
 INDEX
 NAME)



L12 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:135413 HCAPLUS
 DOCUMENT NUMBER: 142:198206
 TITLE: Process for the preparation of
 9,10-dihydro-9-oxa-10-
 organophosphaphenanthrene 10-oxide and
 derivatives of

INVENTOR(S): the same substituted on the phenyl groups
Manfred; Dittrich, Uwe; Just, Berthold; Doering,

PATENT ASSIGNEE(S): Ciesielski, Michael
Aktiengesellschaft, Schill & Seilacher "struktol"

SOURCE: Germany
Eur. Pat. Appl., 19 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

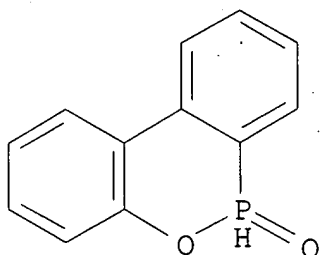
PATENT NO.	KIND	DATE	APPLICATION NO.
EP 1506968	A1	20050216	EP 2004-18830
20040809			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR			
DE 10338131	A1	20050317	DE 2003-10338131
20030815			
US 2005038278	A1	20050217	US 2004-918836
20040813			
PRIORITY APPLN. INFO.:			DE 2003-10338131 A
20030815			

OTHER SOURCE(S): CASREACT 142:198206; MARPAT 142:198206

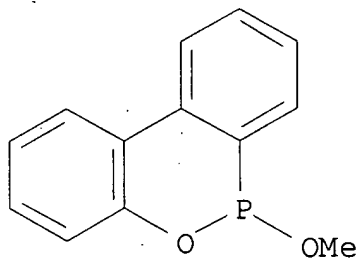
AB A process is provided for the preparation of 9,10-dihydro-9-oxa-10-organophosphaphenanthrene 10-oxide and derivs. of same substituted on the Ph groups, in which: (a) 9,10-dihydro-9-oxa-10-phosphaphenanthrene 10-oxide (DOP) or a derivative of same is reacted in the presence of at least one mono- or polyhydric alc. with at least one ortho ester with formation of a first intermediate product, (b) the intermediate product from step (a) is optionally reacted with at least one further mono- or polyhydric alc. with formation of a further intermediate product and (c) the intermediate product from steps (a) or (b) is transformed by addition of catalytic quantities of alkylation agent into 9,10-dihydro-9-oxa-10-organophosphaphenanthrene 10-oxide or a derivative of same substituted on the

Ph groups.

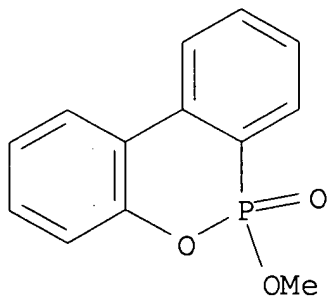
IT 35948-25-5, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene-10-oxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of substituted Ph group derivs. of dihydro
oxaorganophosphaphenanthrene oxide useful as flame retardants)
RN 35948-25-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



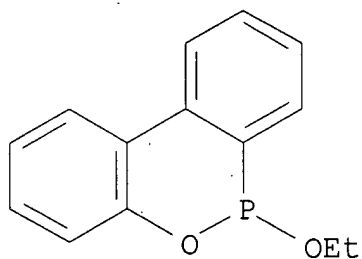
IT 37632-28-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)
(preparation of substituted Ph group derivs. of dihydro
oxaorganophosphaphenanthrene oxide useful as flame retardants)
RN 37632-28-3 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-methoxy- (9CI) (CA INDEX
NAME)



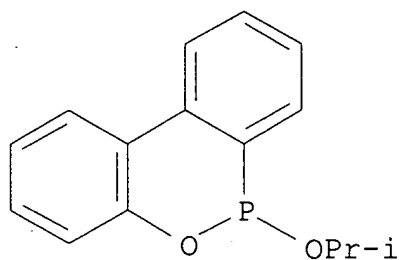
IT 103764-64-3P 194091-96-8P 585573-01-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of substituted Ph group derivs. of dihydro
oxaorganophosphaphenanthrene oxide useful as flame retardants)
RN 103764-64-3 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-methoxy-, 6-oxide (9CI) (CA
INDEX
NAME)



RN 194091-96-8 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-ethoxy- (9CI) (CA INDEX
 NAME)



RN 585573-01-9 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-(1-methylethoxy)- (9CI) (CA
 INDEX
 NAME)

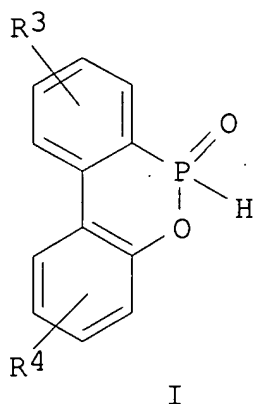


REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
 FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE
 RE FORMAT

L12 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:678817 HCAPLUS
 DOCUMENT NUMBER: 139:197621
 TITLE: Method for producing
 6-alkoxy-(6H)-dibenz[c,e][1,2]-

INVENTOR(S): oxaphosphorins
 Kollann, Sprenger, Stephan; Ciesielski, Michael;
 Carsten; Doering, Manfred
 PATENT ASSIGNEE(S): Forschungszentrum Karlsruhe G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 24 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

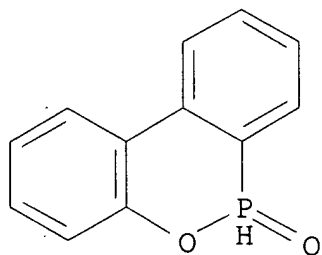
PATENT NO.	KIND	DATE	APPLICATION NO.
WO 2003070736 20030212	A1	20030828	WO 2003-EP1368
W: JP, US RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR			
DE 10206982 20020220	A1	20030904	DE 2002-10206982
DE 10206982 EP 1476453 20030212	B4 A1	20040325 20041117	EP 2003-702624
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, CY, TR, BG, CZ, EE, HU, SK			
JP 2005517740 20030212	T2	20050616	JP 2003-569643
US 2005176983 20030212	A1	20050811	US 2003-505201
PRIORITY APPLN. INFO.: 20020220			DE 2002-10206982 A
			WO 2003-EP1368 W
20030212			
OTHER SOURCE(S): GI	CASREACT 139:197621; MARPAT 139:197621		



AB The invention relates to a method for producing 6-alkoxy-(6H)-dibenz[c,e][1,2]-oxaphosphorins, whereby
 6H-dibenz[c,e][1,2]-oxaphosphorin-6-oxides I (R3, R4 = alkyl, alkoxy, alkylthio, alkenyl, alkynyl, aryl, heteroaryl, cycloalkyl) are used as adduct. Thus, reaction of 6H-dibenz[c,e][1,2]-oxaphosphorin 6-oxide with HCl in methanol at 85° for 45 min followed by treatment with concentrate HCl for 5 h and tri-Me orthoformate for 30 min gave 87% 6-methoxy-6H-dibenz[c,e][1,2]-oxaphosphorin.

IT 35948-25-5, 6H-Dibenz[c,e][1,2]-oxaphosphorin 6-oxide
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (method for producing alkoxydibenzoxaphosphorins starting from dibenzoxaphosphorin oxides)

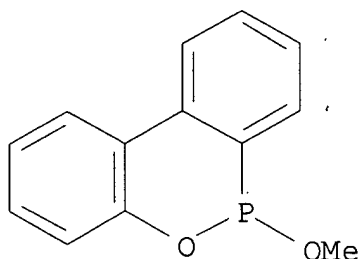
RN 35948-25-5 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



IT 37632-28-3P, 6-Methoxy-6H-dibenz[c,e][1,2]-oxaphosphorin
 194091-96-8P, 6-Ethoxy-6H-dibenz[c,e][1,2]-oxaphosphorin
 585573-01-9P, 6-Isopropoxy-6H-dibenz[c,e][1,2]-oxaphosphorin
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (method for producing alkoxydibenzoxaphosphorins starting from dibenzoxaphosphorin oxides)

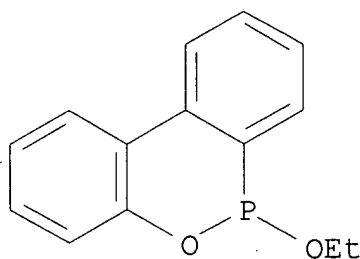
RN 37632-28-3 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-methoxy- (9CI) (CA INDEX NAME)



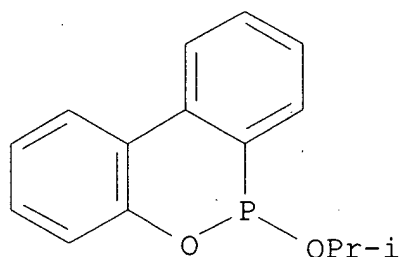
RN 194091-96-8 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-ethoxy- (9CI) (CA INDEX NAME)



RN 585573-01-9 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-(1-methylethoxy)- (9CI) (CA INDEX NAME)



REFERENCE COUNT:
FOR THIS

3

THERE ARE 3 CITED REFERENCES AVAILABLE

RECORD. ALL CITATIONS AVAILABLE IN THE

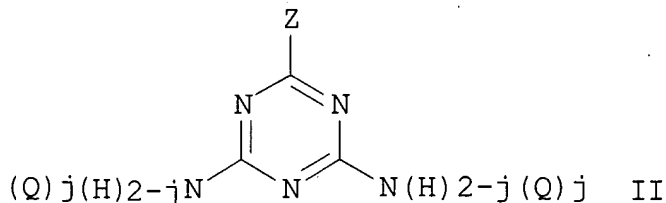
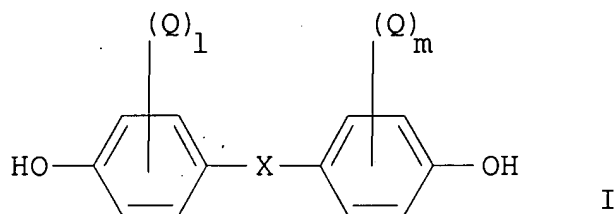
RE FORMAT

L12 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:274797 HCAPLUS

DOCUMENT NUMBER: 138:288481
 TITLE: Phosphorus-containing fire-resistant curing
 agents and epoxy resins, advanced epoxy resins, and
 cured epoxy resins containing them
 INVENTOR(S): Wang, Chun Shan; Hsieh, Cheng Yueh; Lin,
 Ching Yuan
 PATENT ASSIGNEE(S): Taiwan
 SOURCE: Jpn. Kokai Tokkyo Koho, 29 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
JP 2003105058	A2	20030409	JP 2001-386377
JP 3653247	B2	20050525	
TW 593526	B	20040621	TW 2001-90123251
US 2003120021	A1	20030626	US 2002-66455
US 6797821	B2	20040928	
US 2005004339	A1	20050106	US 2004-896567
			TW 2001-90123251 A
			US 2002-66455 A3

PRIORITY APPLN. INFO.:
 20010920
 20020130
 GI



AB The curing agents are selected from I,
 NH₂-iQ_iC₆H₄-p-XC₆H₄-p-NH₂-jQ_j,
 triazine derivs. II, N.tplbond.CN:C(NH₂-jQ_j)NH₂-iQ_i,
 Q'C(NH₂)₂NHC(Q'):NH,
 H₂NC(:NH)NHC(Q'):NH, and N.tplbond.CNH₁-kQ'kC(:NQ')NH₂-iQ'i [1,
 m, i, j =
 0-2; 1 + m > 0; 0 < i + j < 4; k = 0-1; i + k < 3; Z = NH₂, Me,
 Ph; X =
 direct link, CH₂, CMe₂, cyclohexylidene, O, S, SO₂; Q = Q'CR₁R₂,
 Q'; Q' =
 6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-6-yl, Ar₂P(O); R₁, R₂ =
 H, C₁-18
 alkyl, C₆-18 (un)substituted aryl, C₆-18 (un)substituted
 arylmethylene; Ar
 = C₁-4 alkyl- or C₆-18 aryl-(un)substituted Ph or phenoxy].

Epoxy resins

containing the curing agents are useful for semiconductor device packaging.

Thus, bisphenol A was reacted with equimolar (6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-6-yl)methanol in the presence of AcOK to

give

[(6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-6-yl)methyl]bisphenol A,
 228 g of which was treated with 564 g bisphenol A diglycidyl ether at

160° for 2 h in the presence of EtPPh₃Cl to give an epoxy resin.

The epoxy resin was cured with a novolak to show 5% weight loss temperature

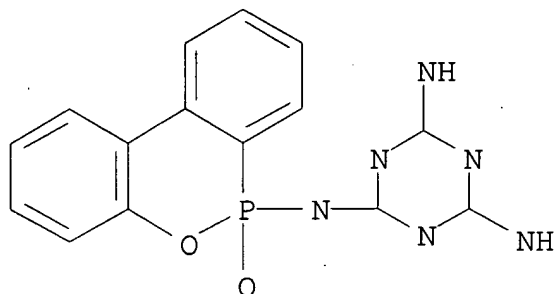
387° in air and N and good fire resistance.

IT 507264-76-8P 507264-78-0P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)

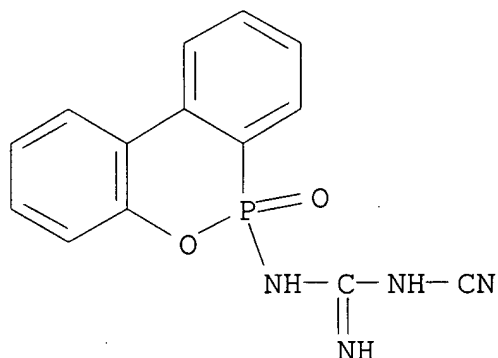
(phosphorus-containing fire-resistant curing agents for epoxy resins)

RN 507264-76-8 HCAPLUS
 CN 1,3,5-Triazine-2,4,6-triamine,
 N-(6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-
 6-yl)- (9CI) (CA INDEX NAME)



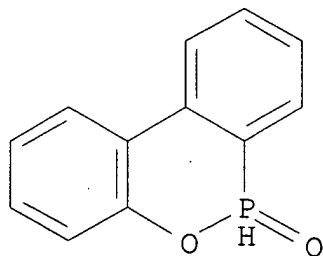
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

RN 507264-78-0 HCAPLUS
 CN Guanidine,
 N-cyano-N'-(6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-6-yl)-
 (9CI) (CA INDEX NAME)



IT 35948-25-5, 9,10-Dihydro-9-oxa-10-phosphaphenanthrene 10-oxide
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (phosphorus-containing fire-resistant curing agents for epoxy
 resins)

RN 35948-25-5 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



L12 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:134074 HCAPLUS

DOCUMENT NUMBER: 138:321381

TITLE: The role of ligand transformations on the performance

of phosphite- and phosphinite-based palladium catalysts in the Suzuki reaction

AUTHOR(S): Limmert, Bedford, Robin B.; Hazelwood, Samantha L.;

Michael E.; Brown, John M.; Ramdeehul, Shailesh;

Hursthouse, Cowley, Andrew R.; Coles, Simon J.;

Michael B.

CORPORATE SOURCE: School of Chemistry, University of Exeter, Exeter, EX4

4QD, UK

SOURCE: Organometallics (2003), 22(7), 1364-1371

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 138:321381

AB The ortho-metalated complex $[\{Pd(\mu-Cl)\{\kappa P, \kappa C-P(OC_6H_2-2,4-tBu_2)(OC_6H_3-2,4-tBu_2)_2\}\}_2]$ reacts with phenylboronic acid hydrate and

K_2CO_3 in dimethylacetamide to give oxo-bridged diaryl phosphite complex

$[Pd\{\kappa P, \kappa C, \kappa O-\mu_2-O-P(O)(OC_6H_2-2,4-tBu_2)(OC_6H_3-2,4-tBu_2)(DMAc)\}]$ (11). When the reaction is repeated in DMF, the coupling

product, 3,3',5,5'-tetra-tert-butyl-2,2'-biphenol (12) was isolated. The

reaction of palladium dichloride with phosphinite $PiPr_2(OC_6H_4-4-Et)$ in

2-methoxyethanol followed by recrystn. in the presence of ethanol gave the

palladium complex of the transesterified phosphinite ligand, trans- $[PdCl_2\{PiPr_2(OEt)\}_2]$ (14). The mol. structure of 11, 12 and 14 was

confirmed by x-ray crystallog. To determine whether related solvolytic

processes have an effect on catalytic activity, the performance of a range of catalysts with "hydrolyzed" and "nonhydrolyzed" ligands was assessed in the Suzuki coupling of aryl bromides. Palladium ortho-metalated dimethylbenzylamine and phosphite complexes with extra hydroxyphosphinite and secondary phosphite ligands, $[\text{Pd}(\text{C}_6\text{H}_4\text{CH}_2\text{NMe}_2-\kappa\text{C}, \kappa\text{N})(\text{L1}-\kappa\text{P})]$ (16, L1 = 6-hydroxy-6H-dibenzo[c,e][1,2]-oxaphosphorin), $[\text{Pd}(\text{L2}-\kappa\text{C}, \kappa\text{P})\text{Cl}]_2$ (3e, L2 = (2,4-di-tert-butylphenyl) (methylenebis-2,2'-[6-tert-butyl-4-methylphenyl]) phosphite), and in situ formed $[\text{Pd}(\text{C}_6\text{H}_4\text{CH}_2\text{NMe}_2-\kappa\text{C}, \kappa\text{N})(\text{L2}-\kappa\text{P})]$ and $[\text{Pd}(\text{C}_6\text{H}_4\text{CH}_2\text{NMe}_2-\kappa\text{C}, \kappa\text{N})(\text{L3}-\kappa\text{P})]$ (L3 = (hydroxy) (methylenebis-2,2'-[6-tert-butyl-4-methylphenyl]) phosphite) were tested as Suzuki coupling catalysts, showing moderate activity. In some cases it was evident that hydrolysis plays a significant role on the catalytic activity; however, this depends not only on the ligand, but also on the combination of ligand and palladium precursor.

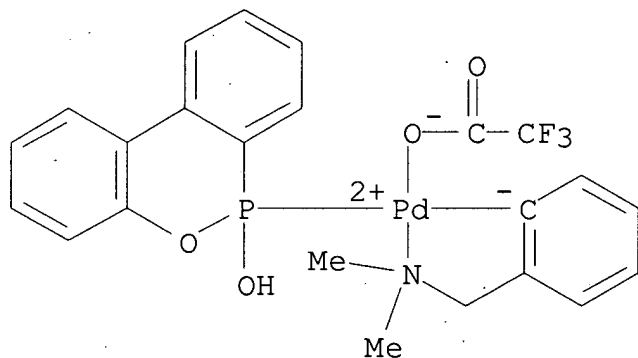
IT 512778-81-3P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(Suzuki coupling catalyst; preparation and Suzuki coupling catalytic activity of palladium cyclometalated complexes with partially hydrolyzed ligands)

RN 512778-81-3 HCAPLUS

CN Palladium, [2-[(dimethylamino- κN)methyl]phenyl- κC](6-hydroxy-6H-dibenz[c,e][1,2]oxaphosphorin- κP6)(trifluoroacetato- κO)-, (SP-4-3)- (9CI) (CA INDEX NAME)



IT 35948-25-5

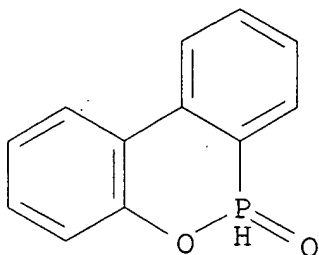
RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(Suzuki coupling co-catalyst, complexation; preparation and Suzuki coupling catalytic activity of palladium cyclometalated complexes with partially

hydrolyzed ligands)

RN 35948-25-5 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



REFERENCE COUNT:
AVAILABLE FOR THIS

35 THERE ARE 35 CITED REFERENCES

RECORD. ALL CITATIONS AVAILABLE IN THE

RE FORMAT

L12 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:371569 HCAPLUS

DOCUMENT NUMBER: 134:354012

TITLE: Synthesis of organophosphorus compounds and their

metal salts

INVENTOR(S): Saito, Toranosuke; Ikemoto, Kenichi; Horii, Hisashi

PATENT ASSIGNEE(S): Sanko Kaihatsu Kagaku Kenkyusho K. K., Japan; Saito

Kaseihin Kenkyusho Y. K.

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DATE	----	-----	-----

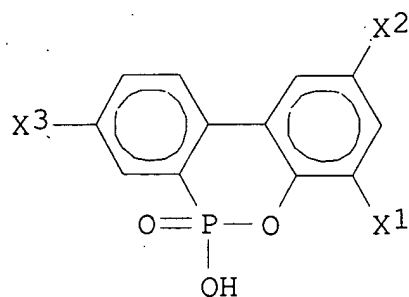
JP 2001139586	A2	20010522	JP 1999-322773
19991112			

PRIORITY APPLN. INFO.: JP 1999-322773

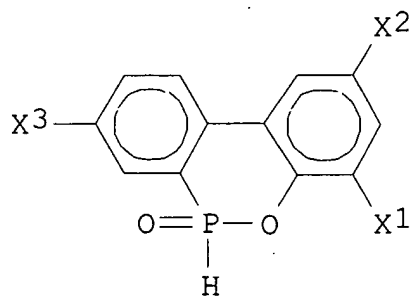
19991112

OTHER SOURCE(S): MARPAT 134:354012

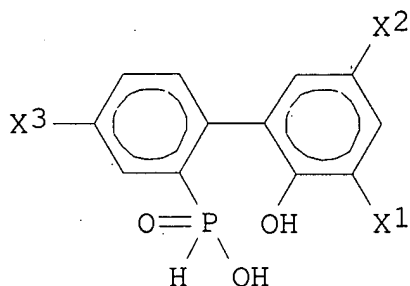
GI



I



II



III

AB Cyclic organophosphorus compound I, useful as fire retardant and stabilizer

for polymeric electronic and optical materials, is synthesized by hydrogen

peroxide oxidation of compound II or III in the presence of water and in the

presence or absence of an inert polar organic solvent followed by dehydrocyclization (X1-3 = H, halogen, alkyl, cycloalkyl, aryl, aralkyl).

IT 36240-31-0P 69151-14-0P 121166-84-5P

RL: IMF (Industrial manufacture); PREP (Preparation)

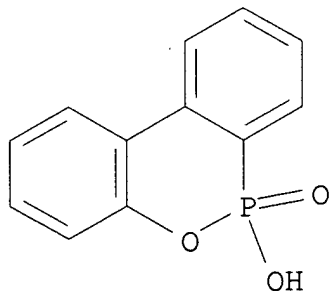
(synthesis of organophosphorus compds. and their metal salts)

RN 36240-31-0 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-hydroxy-, 6-oxide (9CI) (CA

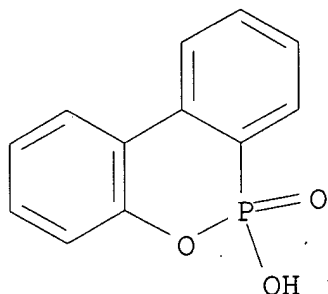
INDEX

NAME)



RN 69151-14-0 HCAPLUS

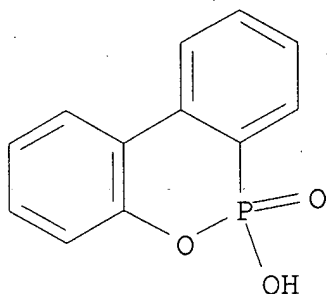
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-hydroxy-, 6-oxide, zinc salt
(9CI)
(CA INDEX NAME)



●1/2 Zn

RN 121166-84-5 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-hydroxy-, 6-oxide, aluminum
salt (9CI)
(CA INDEX NAME)



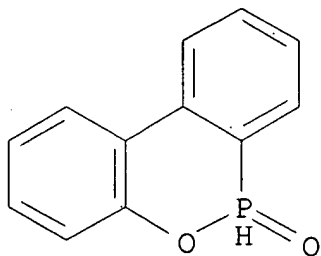
●1/3 Al

IT 35948-25-5, HCA

RL: **RCT (Reactant); RACT (Reactant or reagent)**
(synthesis of organophosphorus compds. and their metal salts)

RN 35948-25-5 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-oxide (9CI) (CA INDEX NAME)



L12 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:433491 HCAPLUS

DOCUMENT NUMBER: 129:149025

TITLE: Synthesis and Characterization of Novel
6-Substituted

4-Phenyl-6H-dibenz[c,e][1,2]oxaphosphorins
AUTHOR(S): Qureshi, Asfia; Hay, Allan S.

CORPORATE SOURCE: Department of Chemistry, McGill University,
Montreal,

QC, H3A 2K6, Can.

SOURCE: Journal of Chemical Research, Synopses
(1998), (7),

355, 1601-1615

CODEN: JRPSDC; ISSN: 0308-2342

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Novel 6-substituted 4-phenyl-6H-dibenz[c,e][1,2]oxaphosphorins
were

synthesized, starting from the reaction of 2,6-diphenylphenol
with P
trichloride using Zn chloride as catalyst.

IT 67362-63-4P

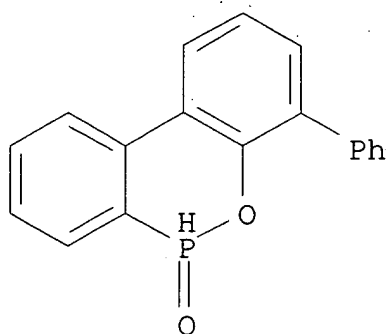
RL: RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation); RACT (Reactant or reagent)

(preparation of dibenzoxaphosphorins from phenols and
phosphorus
trichloride)

RN 67362-63-4 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 4-phenyl-, 6-oxide (9CI) (CA
INDEX

NAME)



IT 210899-90-4P 210899-99-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

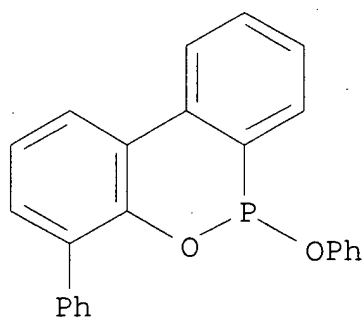
(preparation of dibenzoxaphosphorins from phenols and phosphorus trichloride)

RN 210899-90-4 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-phenoxy-4-phenyl- (9CI) (CA

INDEX

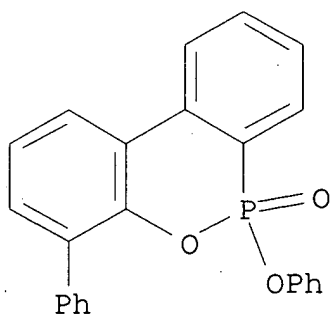
NAME)



RN 210899-99-3 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 6-phenoxy-4-phenyl-, 6-oxide (9CI) (CA

INDEX NAME)



REFERENCE COUNT:
AVAILABLE FOR THIS

44 THERE ARE 44 CITED REFERENCES

RECORD. ALL CITATIONS AVAILABLE IN THE

RE FORMAT

L12 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1981:157828 HCAPLUS
 DOCUMENT NUMBER: 94:157828
 TITLE: Flameproofing agent and flame-retardant
 plastic resin compositions
 INVENTOR(S): Saito, Toranosuke; Ohishi, Hiroyuki
 PATENT ASSIGNEE(S): Sanko Kaihatsu Kagaku Kenkyusho, Japan
 SOURCE: Ger. Offen., 36 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
DE 3010375	A1	19801002	DE 1980-3010375
19800318			
DE 3010375	C2	19841129	
JP 55124792	A2	19800926	JP 1979-31162
19790319			
JP 59053296	B4	19841224	
JP 56104949	A2	19810821	JP 1980-6906
19800125			
FR 2451937	A1	19801017	FR 1980-5922
19800317			
FR 2451937	B1	19830909	
BE 882283	A1	19800918	BE 1980-199839
19800318			
NL 8001591	A	19800923	NL 1980-1591
19800318			
NL 186961	B	19901116	
NL 186961	C	19910416	
GB 2049696	A	19801231	GB 1980-9104
19800318			
GB 2049696	B2	19830615	
US 4317769	A	19820302	US 1980-131722
19800319			
PRIORITY APPLN. INFO.:			JP 1979-31162 A
19790319			JP 1980-6906 A
19800125			
AB Alkali metal or alkaline earth salts of cyclic esters of (2'-hydroxy-2- biphenyl)phosphonic acid or its derivs. are flame retardants for			

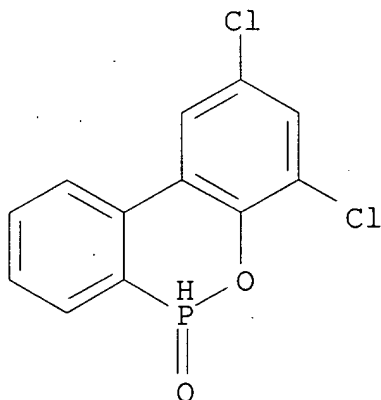
plastics. Thus, heating HOCH₂CH₂OH solns. of
(9,10-dihydro-1,3-dichloro-9-
phospha-10-oxaphenanthren-9-oxide [61910-28-9] with NaOH at
170-208° for 8 h and acidification gives the corresponding cyclic
phosphonate [76965-46-3], neutralization of which gives the Na
salt (I)
[76965-47-4]. Bisphenol A polycarbonate [24936-68-3]
containing 2 phr I has
UL-94 flammability rating V-0, compared with HB with no
retardant.

IT 61910-28-9 72741-96-9 72741-98-1
76964-81-3 76964-83-5 76964-85-7
76964-96-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of)

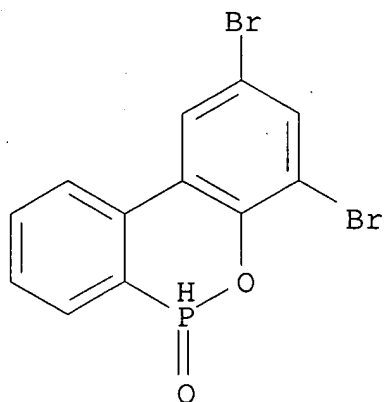
RN 61910-28-9 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4-dichloro-, 6-oxide (9CI)
(CA INDEX
NAME)

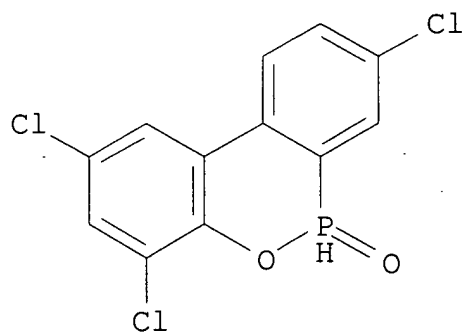


RN 72741-96-9 HCAPLUS

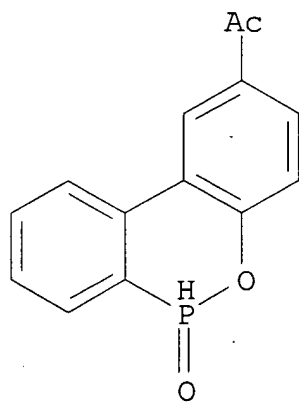
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4-dibromo-, 6-oxide (9CI)
(CA INDEX
NAME)



RN 72741-98-1 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4,8-trichloro-, 6-oxide
 (9CI) (CA
 INDEX NAME)



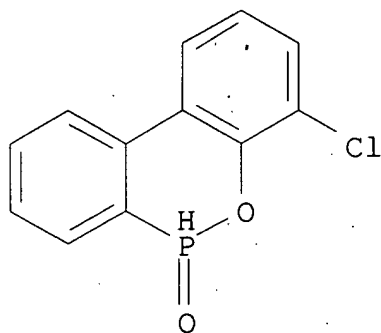
RN 76964-81-3 HCAPLUS
 CN Ethanone, 1-(6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-2-yl)-
 (9CI) (CA
 INDEX NAME)



RN 76964-83-5 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 4-chloro-, 6-oxide (9CI) (CA

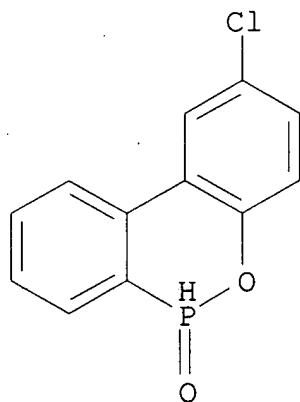
INDEX
NAME)



RN 76964-85-7 HCAPLUS

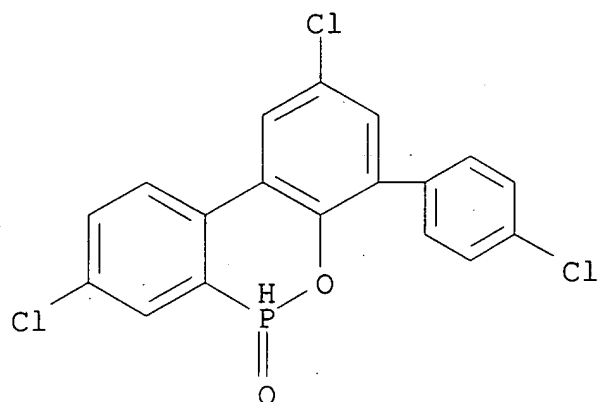
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2-chloro-, 6-oxide (9CI) (CA

INDEX
NAME)



RN 76964-96-0 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin,
2,8-dichloro-4-(4-chlorophenyl)-,
6-oxide (9CI) (CA INDEX NAME)

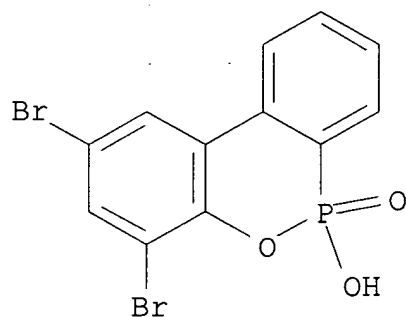


IT 76964-80-2P 76964-82-4P 76964-84-6P
 76964-86-8P 76964-88-0P 76964-89-1P
 76964-91-5P 76964-93-7P 76964-94-8P
 76964-95-9P 76964-97-1P 76965-46-3P

RL: PREP (Preparation)
 (preparation of)

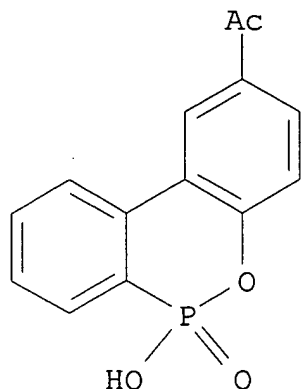
RN 76964-80-2 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4-dibromo-6-hydroxy-,
 6-oxide (9CI)
 (CA INDEX NAME)

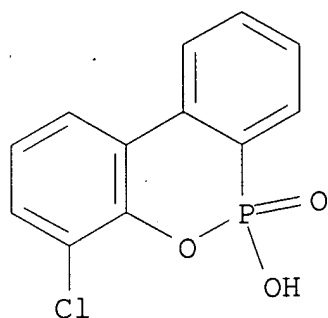


RN 76964-82-4 HCAPLUS

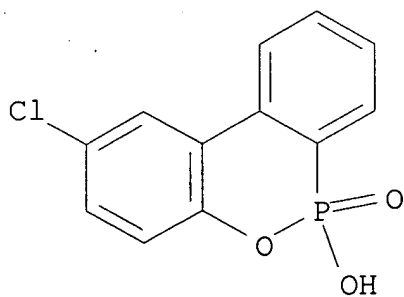
CN Ethanone,
 1-(6-hydroxy-6-oxido-6H-dibenz[c,e][1,2]oxaphosphorin-2-yl)-
 (9CI) (CA INDEX NAME)



RN 76964-84-6 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 4-chloro-6-hydroxy-, 6-oxide
 (9CI) (CA
 INDEX NAME)

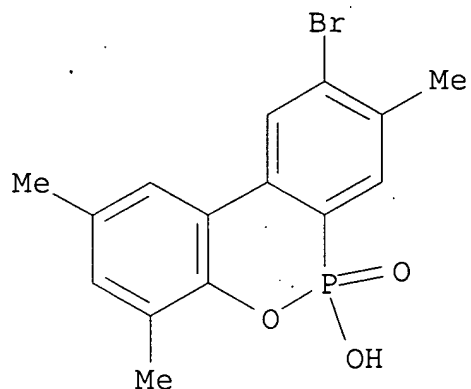


RN 76964-86-8 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2-chloro-6-hydroxy-, 6-oxide
 (9CI) (CA
 INDEX NAME)

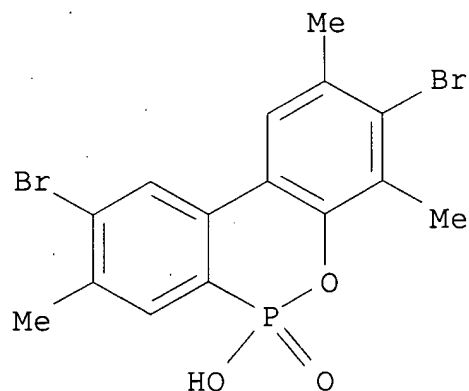


RN 76964-88-0 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin,
 9-bromo-6-hydroxy-2,4,8-trimethyl-,

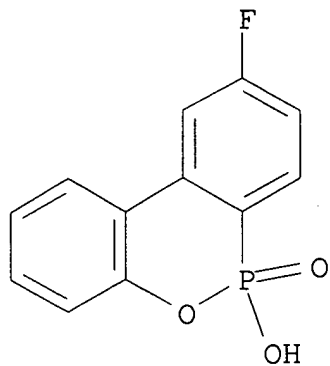
6-oxide (9CI) (CA INDEX NAME)



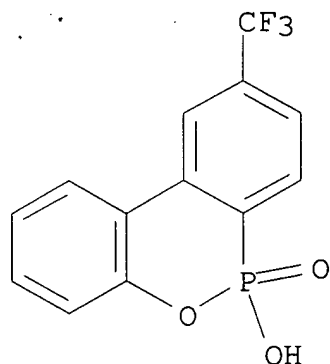
RN 76964-89-1 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin,
3,9-dibromo-6-hydroxy-2,4,8-trimethyl-,
6-oxide (9CI) (CA INDEX NAME)



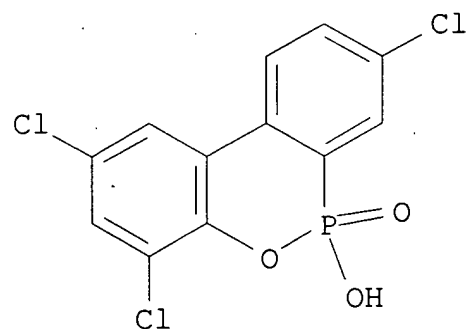
RN 76964-91-5 HCAPLUS
CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 9-fluoro-6-hydroxy-, 6-oxide
(9CI) (CA
INDEX NAME)



RN 76964-93-7 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin,
 6-hydroxy-9-(trifluoromethyl)-, 6-oxide
 (9CI) (CA INDEX NAME)

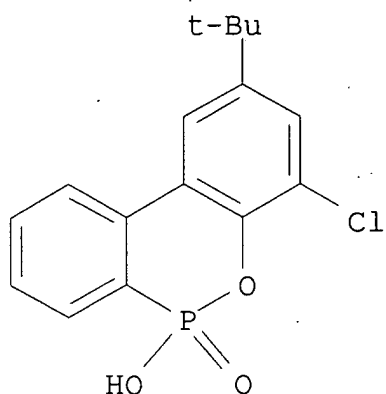


RN 76964-94-8 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4,8-trichloro-6-hydroxy-,
 6-oxide
 (9CI) (CA INDEX NAME)



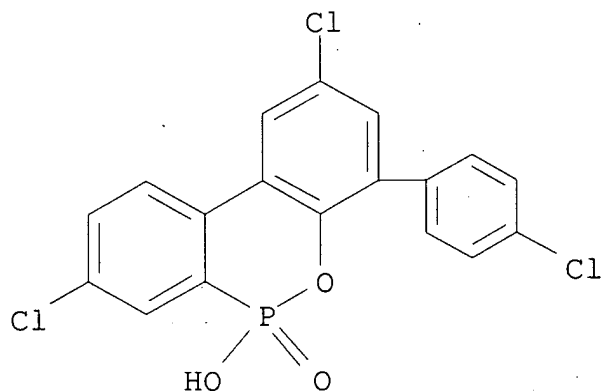
RN 76964-95-9 HCAPLUS
 CN 6H-Dibenz[c,e][1,2]oxaphosphorin,
 4-chloro-2-(1,1-dimethylethyl)-6-hydroxy-

, 6-oxide (9CI) (CA INDEX NAME)



RN 76964-97-1 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin,
2,8-dichloro-4-(4-chlorophenyl)-6-
hydroxy-, 6-oxide (9CI) (CA INDEX NAME)



RN 76965-46-3 HCAPLUS

CN 6H-Dibenz[c,e][1,2]oxaphosphorin, 2,4-dichloro-6-hydroxy-,
6-oxide (9CI)
(CA INDEX NAME)

